

Version Capability for BGP
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Abstract

In this document, we introduce a new BGP capability that allows the advertisement of a BGP speaker's version.

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[1.](#) Introduction

In modern data center designs, we tend to have conventional hosts participating in the routing process. And the fleet of hosts has different versions of routing daemon. This means that troubleshooting is a crucial part to quickly identify the root cause. This document introduces new BGP capability to advertise the version of routing daemon.

[2.](#) Specification of Requirements

The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "MAY", and "OPTIONAL" in this document are to be interpreted as described in [[RFC2119](#)].

[3.](#) Version Capability

The Version Capability is a new BGP capability [[RFC5492](#)].

```

+-----+
|  Version Length (1 octet)  |
+-----+
|      Version (variable)    |
+-----+

```

Figure 1

Version Length:

The number of characters in the Version

Version:

The Version encoded via UTF-8

4. Operation

The Version capability SHOULD only be used for displaying the version of a speaker in order to make troubleshooting easier. You have a bunch of routers with a number of upstreams each. All of them are with a different operating system and routing daemon installed. Assuming that a specific feature is not working or a bug which is not fixed in an appropriate version, would allow us to quickly identify the pattern which versions are affected. Below is an example of implementation in [FRRouting] how it looks like with version advertised by a BGP sender:

```
:~# vtysh -c 'show ip bgp neighbors 192.168.0.1 json' \  
> | jq '"192.168.0.1".neighborCapabilities.versions'  
{  
  "advertisedVersion": "FRRouting 7.2-dev-MyOwnFRRVersion",  
  "receivedVersion": "FRRouting 7.2-dev-MyOwnFRRVersion-gc68bb14"  
}
```

Figure 2

5. IANA Considerations

IANA has assigned capability number 74 for the Version Capability described in this document. This registration is in the BGP Capability Codes registry.

6. Security Considerations

All drafts are required to have a security considerations section. See [RFC 3552](#) [RFC3552] for a guide.

7. References

7.1. Normative References

[FRRouting]

Abratis, D., "FRRouting - BGP Version Capability", 2019, <<https://github.com/ton31337/frr/commit/5fe85a25eb78b02639dbe4dba4c3d4eb7d90851b>>.

[RFC2119]

Bradner, S., "Key words for use in RFCs to Indicate Requirement Levels", [BCP 14](#), [RFC 2119](#), DOI 10.17487/RFC2119, March 1997, <<https://www.rfc-editor.org/info/rfc2119>>.

7.2. Informative References

[RFC3552] Rescorla, E. and B. Korver, "Guidelines for Writing RFC Text on Security Considerations", [BCP 72](#), [RFC 3552](#), DOI 10.17487/RFC3552, July 2003, <<https://www.rfc-editor.org/info/rfc3552>>.

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